WHAT IS CLAIMED IS:

1. A method of forming synthetic microspheres, comprising:

providing an agglomerate precursor, wherein the agglomerate precursor comprises at least one aluminosilicate component and at least one binding agent, wherein the agglomerate precursor has an alkali metal oxide content of less than about 10 wt.% based on the weight of the precursor; and

firing the precursor at a pre-determined temperature profile sufficient to combine the aluminosilicate component with the binding agent so as to form a microsphere having a substantially spherical wall and an average particle diameter greater than about 30 microns.

2. The method of Claim 1, wherein the firing step comprises firing the precursor at a temperature range of between about 600 to 2500°C.

3. The method of Claim 1, wherein the firing step is performed in a fluidized bed reactor.

4. The method of Claim 1, wherein the firing step is performed in a vortex furnace.

5. The method of Claim 1, wherein the firing step is performed in a heated vertical pipe.

6. The method of Claim 1, wherein the firing step is performed in a fuel fired furnace.

7. The method of Claim 2, wherein the firing step further comprises firing the precursor for a period of about 0.05 to 20 seconds.

8. The method of Claim 1, further comprising providing a blowing agent and activating the blowing agent during the firing step so as to release a blowing gas, thereby forming at least one substantially enclosed void in the precursor.

9. The method of Claim 8, wherein the firing step comprises forming a molten skin around the precursor.

10. The method of Claim 9, wherein the blowing agent is activated during the formation of the molten skin.

11. The method of Claim 9, wherein the blowing agent is activated after the formation of the molten skin.

12. The method of Claim 9, wherein the blowing gas is substantially trapped inside the molten skin.

13. A method of manufacturing synthetic microspheres, comprising:

providing an agglomerate precursor comprising a pre-determined amount of at least one primary component comprising aluminosilicate and a pre-determined amount of at least one pre-selected chemical, wherein the at least one pre-selected chemical is combined with the primary component to form a mixture;

drying the mixture to form the agglomerate precursor to a first moisture level; and

firing the agglomerate precursor so as to react the at least one pre-selected chemical to form substantially spherical microspheres.

14. The method of Claim 13, wherein the at least one pre-selected chemical comprises a binding agent.

15. The method of Claim 14, wherein the at least one pre-selected chemical further comprises a blowing agent, wherein the blowing agent, when reacted in the firing step, releases an amount of blowing gas, wherein the blowing gas expands the precursor thereby forming a plurality of microspheres with one or more substantially enclosed voids therein.

16. The method of Claim 13, wherein the aluminosilicate in the primary component in selected from the group consisting of fly ash, basaltic rocks and combinations thereof, wherein the blowing agent is selected from the group consisting of powdered coal, carbon black, sugar, and silicon carbide, wherein the binding agent is selected from the group consisting of alkali silicates, hydroxides, and combinations thereof.

17. The method of Claim 13, wherein the firing step comprises firing the mixture at a temperature range of between about 600 to 2500°C.

18. The method of Claim 13, further comprising rapidly cooling the synthetic microspheres after the firing step.

19. The method of Claim 15, wherein the blowing gas is selected from the group consisting of CO_2, CO, O_2, N_2, N_2O, NO, SO_2, H_2O, and mixtures thereof.

20. The method of Claim 13, wherein drying the precursor to a first moisture level comprises drying the precursor to a moisture level of less than about 14 wt.%.

21. The method of Claim 13, wherein the drying step comprises drying the agglomerate at a temperature of about 400°C prior to the firing step.

22. The method of Claim 13, wherein the drying step comprises drying the agglomerate at a temperature of about 50°C prior to the firing step.

23. The method of Claim 13, wherein the drying step is configured to remove moisture from the precursor so as to substantially reduce rupturing of the agglomerates during the firing step.